

Appl. No. : 10/809,566
Filed : March 25, 2004

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1 (canceled)

2 (withdrawn): A wafer back surface treating method in which a ground or polished surface of a semiconductor wafer activated in a grinding or polishing step, with semiconductor circuits formed thereon, is deactivated, wherein the deactivation treatment is implemented with an oxidizing agent.

3 (canceled)

4 (withdrawn): A wafer back surface treating method in which a ground or polished surface of a semiconductor wafer activated in a grinding or polishing step, with semiconductor circuits formed thereon, is deactivated, wherein the deactivation treatment is implemented with ozone water.

5 (withdrawn): A wafer back surface treating method in which a ground or polished surface of a semiconductor wafer activated in a grinding or polishing step, with semiconductor circuits formed thereon, is deactivated, wherein the deactivation treatment is implemented with illumination of the ground or polished surface thereof with ultraviolet.

6 (currently amended): A ~~wafer back surface treating method~~ for manufacturing a semiconductor device, comprising the steps of:

~~in which providing a ground or polished surface of a semiconductor wafer having a ground or polished surface~~ activated in a grinding or polishing step, with semiconductor circuits formed thereon;

~~, is deactivated~~ deactivating the ground or polished surface, and then;

adhering a dicing sheet ~~is adhered to the deactivated~~ ground or polished surface of the wafer ~~after the deactivation treatment; and~~

dicing the dicing sheet-adhered wafer.

7 (withdrawn): A wafer back surface treating method in which a ground or polished surface of a semiconductor wafer activated in a grinding or polishing step, with semiconductor circuits formed thereon, is deactivated, wherein the deactivation treatment is implemented with an oxidizing agent, and then a dicing sheet is adhered to the ground or polished surface of the wafer after the deactivation treatment.

8 (currently amended): A wafer back surface treating method comprising the steps of:

~~in which a ground or polished surface of~~ providing a semiconductor wafer having a ground or polished surface activated in a grinding or polishing step, with semiconductor circuits formed thereon;

~~, is deactivated, wherein the deactivation treatment is implemented with deactivating the ground or polished surface by blowing of ozone-containing exhaust gas from cooling a UV lamp to on the ground or polished surface thereof of the wafer;~~
~~and, and then~~

adhering a dicing sheet is adhered to the deactivated ground or polished surface of the wafer after the deactivation treatment.

9 (withdrawn): A wafer back surface treating method in which a ground or polished surface of a semiconductor wafer activated in a grinding or polishing step, with semiconductor circuits formed thereon, is deactivated, wherein the deactivation treatment is implemented with ozone water, and then a dicing sheet is adhered to the ground or polished surface of the wafer after the deactivation treatment.

10 (withdrawn): A wafer back surface treating method in which a ground or polished surface of a semiconductor wafer activated in a grinding or polishing step, with semiconductor circuits formed thereon, is deactivated, wherein the deactivation treatment is implemented with illumination of the ground or polished surface thereof with ultraviolet, and then a dicing sheet is adhered to the ground or polished surface of the wafer after the deactivation treatment.

11 (withdrawn): A dicing sheet adhering apparatus having a mechanism to blow ozone to a ground or polished surface of a wafer.

12 (withdrawn): A dicing sheet adhering apparatus having a UV illumination mechanism illuminating a UV-setting protective tape on a ground or polished surface of a wafer with ultraviolet and in addition, a mechanism to blow exhaust having cooled a UV lamp to the ground or polished surface of a wafer.

13 (withdrawn): A method for treating a back surface of a semiconductor wafer comprising:

(i) grinding or polishing the back surface of the wafer;

(ii) treating the ground or polished back surface uniformly with a surface deactivation agent selected from the group consisting of an oxidizing agent, dry ozone, ozone water, and ultraviolet radiation, to oxidize the ground or polished surface; and

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(iii) adhering a dicing sheet to the oxidized surface of the wafer, wherein adhering strength between the back surface and the dicing sheet is reduced as compared with adhering strength achieved without step (ii).

14 (withdrawn): The method according to Claim 13, wherein steps (i), (ii), and (iii) are conducted as a unit of processes.

15 (withdrawn): The method according to Claim 13, wherein step (ii) is conducted per wafer.

16 (withdrawn): The method according to Claim 13, wherein step (ii) is conducted per group of wafers.

17 (withdrawn): The method according to Claim 13, wherein step (ii) is conducted by changing the atmosphere surrounding the wafer.

18 (new): The method according to Claim 6, wherein the deactivating step comprises blowing ozone on the ground or polished surface of the semiconductor wafer.